

ABSTRACT

A channel dividing unit of a transmitter divides a transmission signal into a plurality of channels based on channel structure information indicating a method of structuring an MIMO informed from a receiver. An STC unit realizes transmission diversity according to STC processing for each of the channels divided. A channel estimating unit of the receiver estimates a channel gain for transmission and reception of a signal. Based on a result of estimation of the channel gain, a physical configuration of the transmitter, and a physical configuration of the receiver, a transmission-side channel-structure determining unit of the receiver determines a structure of an MIMO channel, and informs channel structure information to the transmitter.